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## Highlights of Dairy 2007 Part IV: Reference of Dairy Cattle Health and Management Practices in the United States, 2007

In 2007, the National Animal Health Monitoring System (NAHMS) conducted a study of U.S. dairy operations. The Dairy 2007 study collected data on dairy health and management practices from 17 of the Nation's major dairy States.\* These States represented 79.5 percent of U.S. dairy operations and 82.5 percent of U.S. dairy cows. The operations were divided into 3 herd-size categories based on the number of milk cows present: small (fewer than 100 cows), medium (100 to 499 cows), and large (500 or more cows).

The following highlights were excerpted from the report Dairy 2007 Part IV: Reference of Dairy Cattle Health and Management Practices in the United States, 2007, released in February 2009.

### Reproduction

- The operation average voluntary waiting period was 54.8 days. The length of the voluntary waiting period did not differ by herd size.
- The most common method used to detect estrus on operations during the previous 12 months was visual observation, with 93.0 percent of all operations using this practice.
- For operations with a set number of times per day to observe cows for estrus, the operation average number of minutes per day that cows were observed was 62.5 minutes.
- More than one-half of operations used artificial insemination (AI) to natural estrus for first service for the majority of heifers and cows (57.1 and 54.7 percent, respectively) during the previous 12 months.

#### \* States/Regions:

- **West:** California, Idaho, New Mexico, Texas, and Washington
- **East:** Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, New York, Ohio, Pennsylvania, Vermont, Virginia, and Wisconsin

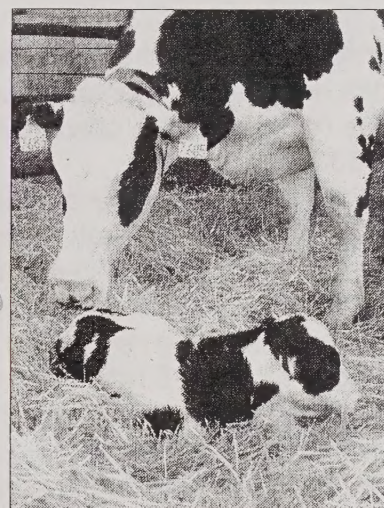


Photo courtesy of Dr. Jason Lombard

- More than one-half of operations (57.6 percent) used timed-AI programs for at least some cows during the previous 12 months and about one-fourth (25.4 percent) used timed-AI programs for at least some heifers.
- Approximately one-third of operations (32.4 percent) used a controlled internal drug release insert during the previous 12 months.
- More than one-half of operations (54.9 percent) had cattle pregnancies conceived through natural service (bull breeding). Almost 9 of 10 operations (88.4 percent) had pregnancies conceived via AI, and about 1 of 10 operations (9.9 percent) had pregnancies via embryo transfer. A higher percentage of large operations (71.8 percent) used natural service compared with small operations (51.2 percent).
- On average, 72.5 percent of pregnancies were conceived by AI—either after detected estrus or timed—during the previous 12 months.
- On operations with any pregnancies conceived through AI during the previous 12 months, the owner/operator performed the majority of AI services on 51.0 percent of operations, while an AI service/technician performed the majority of these services on 40.7 percent of operations.
- Almost 9 of 10 operations (89.5 percent) used a private veterinarian to perform the majority of pregnancy exams during the previous 12 months.



- The majority of operations (85.7 percent) routinely used rectal palpation to perform pregnancy exams. More than one-fourth of operations (27.4 percent) routinely used ultrasound to determine pregnancy status.

## Calving practices

Approximately 6 of 10 operations had guidelines on when to intervene during calving for heifers (60.7 percent), cows (60.5 percent), and both (60.5 percent).

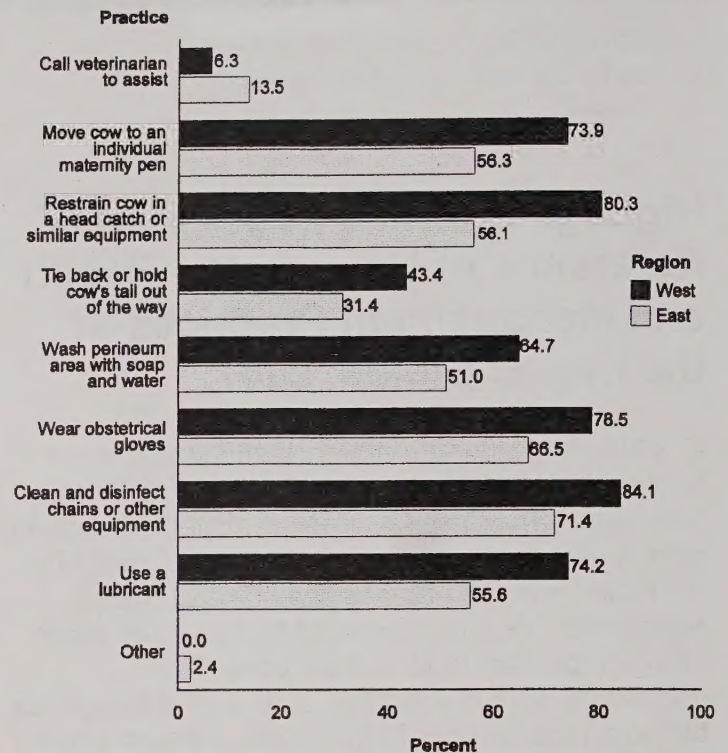
Observations close to calving were observed more frequently during the day than at night. About one-half of operations (47.2 percent) allowed less than 3 hours, on average, to pass between observations during the day, with 17.6 percent of operations allowing 5 hours or more between observation periods. During the night, 17.6 percent of operations allowed less than 3 hours to pass between observations, and 19.9 percent of operations let 5 hours or more pass between observation periods.

The majority of operations (63.1 percent for heifers and 61.9 percent for cows) reported that they would examine or assist an animal before 4 hours elapsed if she shows signs of stage 1 or without subsequent straining.

A higher percentage of operations in the West region than in the East region would generally move the cow to an individual maternity pen (73.9 and 56.3 percent, respectively), restrain the cow in a head catch or similar equipment (80.3 and 56.1 percent, respectively), or use a lubricant (74.2 and 55.6 percent, respectively) [figure 1].

- Overall, 8.1 percent of calves were stillborn during the previous 12 months, with no difference in percentage of stillbirths by herd size.
- On 80.7 percent of operations, a calf that experienced a difficult birth would receive nostril stimulation to initiate breathing. Hanging the calf upside down would be performed on 66.3 percent of operations. Three of the practices that are simple to perform and do not require special equipment or materials—positioning the calf on its sternum, drying the calf manually with towels or a hair dryer, and trying to elicit a suckle response—were performed by at least one-half of operations.

**Figure 1. Percentage of Operations by Practice Generally Implemented Once a Decision Is Made to Intervene in Calving, by Region**



## Surgical procedures

- Overall, 94.0 percent of operations routinely dehorned heifer calves during the previous 12 months, and 17.7 percent of these operations used analgesics or anesthetics during the dehorning procedure.
- For operations that routinely dehorned heifer calves, more than two-thirds (69.1 percent) used a hot iron; 28.2 percent used a tube, spoon, or gouge; and 16.3 percent used saws, wire, or Barnes dehorers.
- The majority of heifer calves on operations that routinely dehorned calves were dehorned by hot iron (67.5 percent of calves) at an average age of 7.6 weeks.
- About one-half of operations (50.3 percent) routinely removed extra teats from heifer calves.
- Almost one-half of operations (48.6 percent) had one or more tail-docked cows. A higher percentage of operations in the West region (81.3 percent) had no tail-docked cows than in the East region (48.5 percent of operations).
- The majority of operations that had tail-docked cows most commonly used a band to dock tails (87.2 percent); these operations represented 90.4 percent of tail-docked cows.



- About two-fifths of operations (40.5 percent) routinely castrated bull calves.
- Bands were used most commonly to castrate calves on 60.8 percent of operations, with 26.9 percent of operations using a knife and 12.2 percent using a burdizzo.

## Hoof health

- Approximately 1 of 10 bred heifers (11.4 percent) and 1 of 4 cows (23.9 percent) were lame at least once during the previous 12 months.
- About 3 of 10 operations (28.7 percent) had at least 1 case of digital dermatitis in bred heifers while 70.2 percent of operations had at least 1 case in cows.
- Of the 38.9 percent of operations that used footbaths, 20.3 percent of operations used a footbath throughout the year.
- For operations that used footbaths, the majority (66.6 percent) used copper sulfate most commonly as the footbath medication; these operations accounted for the majority of cows (63.6 percent).
- More than 80 percent of operations performed at least some hoof trimming, with a higher percentage of large operations and medium operations (99.4 and 95.6 percent, respectively) performing some trimming than small operations (79.4 percent).
- The majority of cows (80.1 percent) were on operations where cows' hooves were trimmed by a professional hoof trimmer during the previous 12 months.

## Hemorrhagic bowel syndrome (HBS)

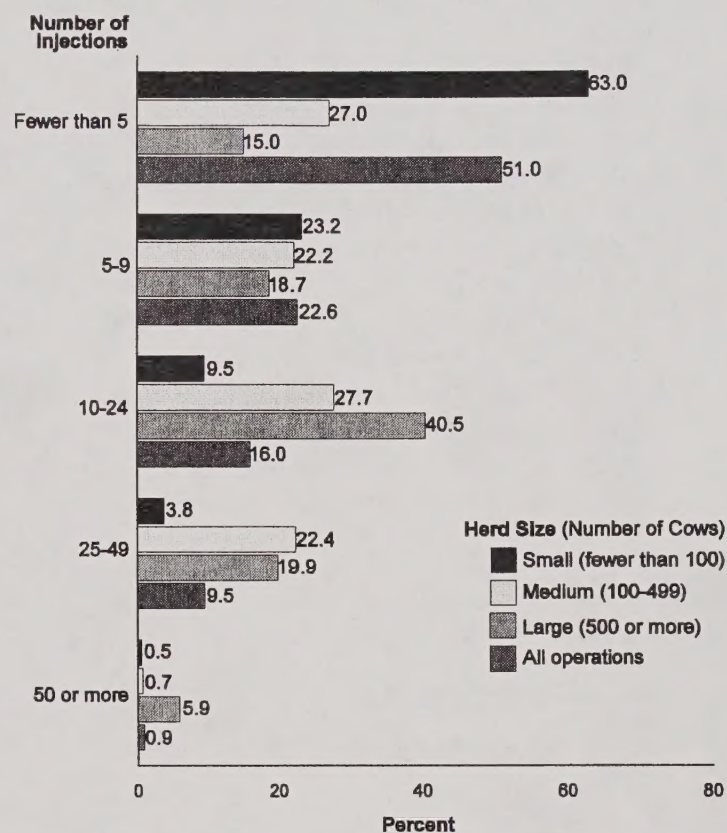
- Overall, one-fifth of operations (19.7 percent) had at least one cow with signs of HBS on the operation during the previous 5 years.
- Almost one-third of operations that had cows with signs consistent with HBS during the previous 5 years (31.1 percent) had implemented preventive measures during that time specifically to reduce or eliminate HBS.

## Treatment practices

- The operation average number of injections typically received by a cow was 13.8, or an average of slightly more than 1 injection per month.

- The number of injections a cow received increased with herd size; 63.0 percent of small operations gave fewer than five injections, compared with 27.0 percent of medium operations and 15.0 percent of large operations (figure 2).

**Figure 2. Percentage of Operations by Number of Injections a Cow Typically Received During the Previous 12 Months, and by Herd Size**



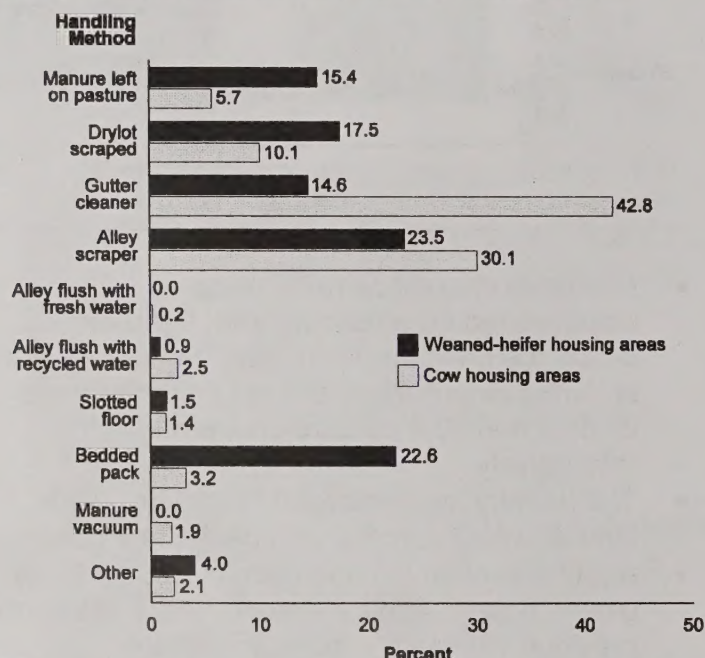
- Almost all operations (97.4 percent) administered intramuscular (IM) injections during the previous 12 months. Subcutaneous and intravenous injections were administered on 69.1 and 70.3 percent of operations, respectively.
- The primary locations for IM injections were hind leg (45.3 percent) and neck (34.2 percent).
- About one of seven operations (13.6 percent) used a new needle for every injection during the previous 12 months; these operations represented 9.8 percent of all cows.
- About three-fifths of operations (58.2 percent) reported keeping a written or computerized record for each cow that received a treatment requiring a withdrawal time.



## Nutrient management

- Of the 92.3 percent of operations that housed weaned heifers, about one-third housed the heifers primarily in a multiple-animal inside area (34.6 percent), while one-fourth housed weaned heifers in a drylot/multiple-animal outside area (22.9 percent).
- Almost one-half of operations (49.2 percent) housed lactating cows primarily in a tie stall/stanchion facility. About one of three operations (32.6 percent) housed cows in freestalls.
- About one-fourth of operations (23.5 percent) used an alley scraper to handle the majority of manure in weaned-heifer housing areas, while 22.6 percent of operations used bedded pack (manure pack), 17.5 percent scraped the drylot, 15.4 percent left manure on pasture, and 14.6 percent used a gutter cleaner.
- In areas used to house cows, more than two-fifths of operations (42.8 percent) used a gutter cleaner to handle the majority of manure, while 30.1 percent used an alley scraper (figure 3).

**Figure 3. Percentage of Operations by Method Used to Handle the Majority of Manure in Weaned-heifer\* and Cow Housing Areas**



\*For operations that housed weaned heifers.

- Almost all operations applied manure—solid or liquid or both—to land either owned or rented (99.1 percent).
- More than 9 of 10 operations (91.5 percent) used a broadcast/solid spreader to apply manure to land.

- About one-fourth of operations analyzed manure for nitrogen, phosphorus, or potassium during the previous 12 months.
- Operations spread liquid or slurry manure more often during spring or fall than summer or winter; operations also spread solid manure more commonly in spring or fall than summer or winter.
- About one-half of operations (52.2 percent) applied manure to pasture or hay crops during the growing season.
- Of the operations that had a written nutrient management plan, 9 of 10 operations (89.2 percent) developed the plan in cooperation with the USDA Natural Resource Conservation Service or a local conservation district.

For more information, contact:

USDA:APHIS:VS:CEAH  
NRRC Building B, M.S. 2E7  
2150 Centre Avenue  
Fort Collins, CO 80526-8117  
970.494.7000  
E-mail: [NAHMS@aphis.usda.gov](mailto:NAHMS@aphis.usda.gov)  
<http://nahms.aphis.usda.gov>

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